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     (FILE 'HOME' ENTERED AT 10:01:53 ON 13 JUL 2001)
     FILE 'CA' ENTERED AT 10:02:00 ON 13 JUL 2001
L1             0 S WILHEMI M?/AU AND 1971/PY
L2             1 S WILHELMI M?/AU AND 1971/PY
L3             4 S WILHELMI M?/AU AND AUTOMATIC/TI
L4           912 S AUTOMAT?(4A)MASS SPECTRO?
L5            41 S L4 AND VACUUM
L6             6 S L4 AND LOCK?
L7            12 S L4 AND SAMPLE(3A)(LOAD? OR CASSETTE)
L8           860 S L4 NOT L5-7
L9           518 S L8 NOT(AIR OR CHROMATOG?)
L10            8 S L9 AND NOVEL/TI
L11          612 S AUTOMAT?(4A)MASS SPECTRO?/TI,IT,ST
L12            1 S L10 AND L11
L13          335 S L9 AND L11
L14           10 S L13 AND SOLID
L15           65 S L3,L5-7,L12,L14
L16           44 S L15 NOT PY>1994

=> d l16 bib,ab 1-44

L16 ANSWER 7 OF 44  CA  COPYRIGHT 2001 ACS
AN  114:114144  CA
TI  A precision carbon-14 accelerator mass spectrometer
AU  Purser, K. H.; Smick, T. H.; Purser, R. K.
CS  US-AMS Corp., Topsfield, MA, 01983, USA
SO  Nucl. Instrum. Methods Phys. Res., Sect. B (1990), B52(3-4), 263-8
AB  Details will be presented of a high throughput, automated accelerator mass
    spectrometer. The system, which has been designed to provide 14C/12C and
    13C/12C isotopic ratio information for milligram samples of graphite, can
    provide data with accuracies comparable to that which can be achieved using
    the techniques of precision beta-decay counting. As many as sixty bar-
    coded samples/stds. are loaded into the system at one time, which can
    operate completely unattended and collect and analyze data for at least one
    day. By using dual sources, the throughput of the instrument will be close
    to 5000 samples per yr. 14C backgrounds are expected to be well below that
    of sample contamination, and should allow measurements to be made on
    samples having an age of more than 60,000 yr.

L16 ANSWER 10 OF 44  CA  COPYRIGHT 2001 ACS
AN  106:27085  CA
TI  Device for automatic mass spectrometric analysis
IN  Yano, Masayoshi
PA  Hitachi, Ltd., Japan
SO  Jpn. Kokai Tokkyo Koho, 4 pp.
PI  JP 61058153        A2   19860325        JP 1984-178343   19840829
AB  The title device consists of several probes installed on a rotatable disk
    and perpendicular to it in a vacuum chamber. Each probe is automatically
    moved into an ionization chamber where its preheated sample is ionized for
    mass spectrometry and then removed for the next probe sample anal. Each
    probe anal. takes 1-2 h. There is no introduction of air into the system
    during the anal., and therefore there is no change in the spectrogram
    backgrounds caused by moisture in the air, and no counterflow of vacuum
    pump oil.

L16 ANSWER 20 OF 44  CA  COPYRIGHT 2001 ACS
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AN 91:101547 CA
TI A fully automated mass spectrometer for the analysis of organic solids
AU Hillig, Heinrich; Kueper, Hendrik; Riepe, Wolfgang; Ritter, Hans Peter
CS Inst. Spektrochem. Angew. Spektrosk., Dortmund, D-4600/1, Fed. Rep. Ger.
SO Anal. Chim. Acta (1979), 112(2), 123-32
AB The automation of a mass spectrometer-computer system to process up to 30 samples without attention after sample loading is described. An automatic sample changer introduces the samples successively into the ion source by means of a direct inlet probe. A process control unit dets. the operation sequence. Computer programs are available for the hardware support, system supervision, and evaluation of the spectrometer signals. The most essential precondition for automation, automatic evapn. of the sample material by electronic control of the total ion current, is satisfactory. The system operates routinely overnight in an industrial lab., so that day work can be devoted to different anal. problems. The cost of routine analyses is halved.

L16 ANSWER 25 OF 44 CA COPYRIGHT 2001 ACS
AN 89:96355 CA
TI Experiments with an automatic mass spectrometer in the isotopic analysis of nuclear fuels
AU Koch, L.; Brandalise, B.; Rijkeboer, C.; Romkowski, M.; Wilhelmi,*** M.; Brachmann, K.; Heinen, G.
CS Eur. Inst. Transuranium Elem., Leopoldshafen, Ger.
SO Adv. Mass Spectrom. (1978), 7B, 1052-61
AB The title automatic mass spectrometer is described and its performance is discussed with 9 refs.

L16 ANSWER 30 OF 44 CA COPYRIGHT 2001 ACS
AN 81:165750 CA
TI Automatic mass-spectrometric analysis. Preliminary report on development of a novel mass-spectrometric system for biomedical applications
AU Dreyer, W. J.; Kuppermann, A.; Boettger, H. G.; Giffin, C. E.; Norris, D. D.; Grotch, S. L.; Theard, L. P.
CS Jet Propul. Lab., California Inst. Technol., Pasadena, Calif., USA
SO Clin. Chem. (1974), 20(8), 998-1002
AB A mass spectrograph, coupled to automatic sample prepn. devices and ion species simultaneously, was described. The app. could permit simultaneous multicomponent anal. of appropriately prepd. samples and could detect as little as 10-15 g of a single component. This approach offered significant advantages over other methods, including conventional mass spectrometry.

L16 ANSWER 32 OF 44 CA COPYRIGHT 2001 ACS
AN 78:92116 CA
TI Automatic analysis of uranium and plutonium in solutions
AU Von Baeckmann, A.; Neuber, J.; Wilhelmi, M.; Koch, L.
CS Nucl. Res. Cent., Karlsruhe, Ger.
SO Anal. Methods Nuclear Fuel Cycle, Proc. Symp. (1972), Meeting Date 1971, 329-41 Publisher: IAEA, Vienna, Austria.
AB A system based on x-ray fluorescence anal. and mass spectrometry for detn. of U and Pu in solns., e.g. in reprocessing plants, consists of automatic sample prepn. stage in which exactly weighed amts. of the sample solns. are mixed with known amts. of Th, and aliquots of the samples are taken both for mass spectrometric isotopic diln. anal. and for detn. of the U and Pu concns. by x-ray fluorescence spectroscopy; automated x-ray fluorescence spectrometer for the rapid detn. of the U and Pu concns. in the prepd. sample by comparison with the Th internal std.; central lab. with an automated mass spectrometer for subsequent measurement of the ratio between

U and Pu isotopes and Th to prevent the samples from undergoing changes during storage, they are dried in small Al capsules in the sample prepn. stage. The design of the system is described and its advantages, esp. for purposes of nuclear safeguards, are outlined.

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